15. The process according to claim 14, wherein the disjunctive set of elements extend substantially parallel to each other in the spatial frequency space.

16. The process according to claim 9, wherein the process suppresses noise effects.

The amendments to the claims are shown in bracket-underline format on separate pages in Exhibit A, attached herewith.

REMARKS

Claims 9-16 are currently pending in this application.

The Office Action rejected claims 9-16 under 35 U.S.C. § 112, first paragraph, as containing non-enabled subject matter; rejected claims 9-16 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps; and rejected claims 9-16 under 35 U.S.C. § 102(e), as being anticipated by Mistretta et al. (U.S. Patent No. 6,381,486).

With regard to the Section 112 rejections of the claims, Applicants believe that these rejections are moot in light of the amendments to claims 9-16. Claims 9-16 recite and the specification supports a process useful for detecting the properties of an object using measurements within a spatial frequency space. (Claim 9, lines 1-2; substitute specification at p. 4, lines 16-17; Fig. 1). The process comprises: detecting a central area and first areas of the spatial frequency space, the first areas being a first distance from the central area (claim 9, lines 3-4; substitute specification at p. 5, lines 1-3); detecting the central area and second areas of the spatial frequency space, the second areas being a second distance from the central area (claim 9, lines 5-6; substitute specification

at p. 5, lines 4-10); and detecting the central area and third areas of the spatial frequency space, the third areas being a third distance from the central area (claim 9, lines 7-8; substitute specification at p. 5, lines 11-16). Thus, the present invention, as recited in claims 9-16 and disclosed in the specification, addresses the problems of the related art, e.g., "in functional magnetic resource imaging, there is a need for parameters that influence nuclear magnetic resonance signals to be detected with the highest possible spatial resolution." (Substitute specification at p. 2, lines 3-8).

Applicants, therefore, respectfully request reconsideration and withdrawal of the Section 112 rejections of claims 9-16. Applicants respectfully traverse the prior art rejection of the claims, for the following reasons.

The data processing of the method described by Mistretta et al. refers to spiral imaging rather than to Fourier imaging. Fig. 3 and col. 6, lines 63-65 of the reference disclose: "The boundaries of these regions are concentric about the origin of k_z-k_y space and a central region." This contradicts Fig. 2 of Mistretta et al. which shows a conventional three-dimensional gradient recalled echo pulse sequence with non-symmetric data sampling. Even assuming, *arguendo*, that data processing of Mistretta et al. is done by Fourier methods applied to appropriately arranged data sets, the method according to the reference is still distinguishable from claims 9-16. According to Mistretta et al., each fractional data set represents only a part of the entire k-space and is separately used for Fourier transformation. Col. 7, lines 5-10 of the reference states:

> ... The first phase of the acquisition produces segments 1 through 8 which are reconstructed using an appropriate interpolation scheme and fast Fourier transform to form image frames 301 through 308 in a time course series of images. The images 301-308 are of lower resolution than the final image ...

Each region (A through F) shown in Fig. 3 of Mistretta et al. serves for one separate image, so that at least two images with defined properties are created, one image with high contrast and another image

with high resolution. In addition, four images are produced, with each image having a unique set of contrast and resolution.

The present invention recited, for example, in claim 9, and claims 10-16 at least by virtue of dependence, comprises a combination of elements, including detecting a central area and first areas of the spatial frequency space, the first areas being a first distance from the central area; detecting the central area and second areas of the spatial frequency space, the second areas being a second distance from the central area; and detecting the central area and third areas of the spatial frequency space, the third areas being a third distance from the central area. Thus, in contrast to Mistretta et al., the process of the present invention acquires a central area, which is common to all measurements, in combination with different areas of the higher frequencies of k-space, which are subsequently read. In doing so, the contrast and spatial resolution of each separate image is equal. The combination of low-frequency and high frequency data within one data set, ready for post-processing, distinguishes the present invention from the method of Mistretta et al.

In light of the above, Applicants submit that claims 9-16 are patentably distinguishable from Mistretta et al. Applicants, therefore, respectfully request reconsideration and withdrawal of the Section 102(e) rejection of these claims.

In view of the foregoing remarks, Applicants submit that the claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the reconsideration of the application and the timely allowance of the pending claims.

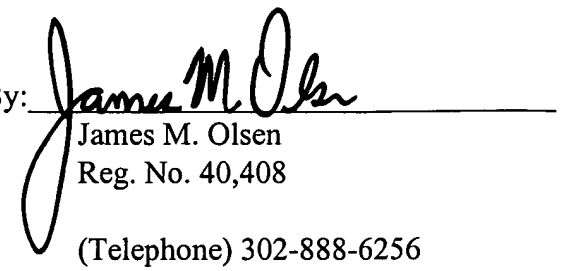
If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 03-2775. If a fee is required for an extension of time under 37

C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Dated: April 25, 2003

By: 

James M. Olsen
Reg. No. 40,408

(Telephone) 302-888-6256
(Facsimile) 302-255-4256

EXHIBIT A - AMENDMENTS TO THE CLAIMS OF S.N. 09/742,470

IN THE CLAIMS:

Please amend claims 9-16, as follows:

9. (Twice Amended) [An imaging] A process useful for [examining] detecting the properties of an object using measurements within a spatial frequency space, the [imaging] process comprising:

detecting a central area and first areas of the spatial frequency space, the first areas being a first distance from the [cental] central area;

detecting the central area and second areas of the spatial frequency space, the second areas being a second distance from the [cental] central area; and

detecting the central area and third areas of the spatial frequency space, the third areas being a third distance from the [cental] central area.

10. (Twice Amended) The [imaging] process according to claim 9, wherein the first, second, and third areas of the spatial frequency space are spaced at different distances from the central area.

11. (Twice Amended) The [imaging] process according to claim 9, wherein the areas of the spatial frequency space that overlap cover the central area.

12. (Twice Amended) The [imaging] process according to claim 9, wherein the first, second, and third areas of the spatial frequency space have higher spatial frequencies than the central

area.

13. (Twice Amended) The [imaging] process according to claim 9, wherein the first, second, and third areas of the spatial frequency space extend substantially parallel to each other.

14. (Twice Amended) The [imaging] process according to claim 9, wherein elements of one of the first, second, or third areas of the spatial frequency space form a disjunctive set.

15. (Twice Amended) The [imaging] process according to claim 14, wherein the disjunctive set of elements extend substantially parallel to each other in the spatial frequency space.

16. (Twice Amended) The [imaging] process according to claim 9, wherein the process suppresses noise effects.